

**What Is Claimed Is:**

1. A plasmid prepared by recombinant techniques having the construct shown in Figure 1.
2. An antigen protein encoded by the plasmid  
5 of claim 1.
3. A protein (V antigen) capable of inducing a protective antibody of (anti-V antigen).
4. A method of controlling the effects of *Y. pestis* on mammals comprising the steps of:  
10
  - a) providing a vaccine comprised of the protein of claim 2; and
  - b) treating a mammal in need thereof with an effective anti *Y. pestis* amount of the vaccine.
5. A method of treating a mammal comprising  
15 the steps of:
  - a) providing a composition comprised of a protein encoded by the plasmid of claim 1; and
  - b) treating a mammal in need thereof with an effective anti-inflammatory amount of the composition.
6. A method of immunizing a mammal against  
20 *Y. pestis* comprising the steps of:
  - a) providing a composition comprised of the determinants of *Y. pestis*; and
  - b) treating a mammal in need thereof with an  
25 effective immunizing amount of the composition.
7. A plasmid prepared by recombinant techniques comprised of an ability to encode proteins

capable of controlling the effects of *Y. pestis*, the plasmid containing low calcium response regions V and H and the structural gene for staphylococcal protein A.

5           8.    An antigen protein encoded by the plasmid of claim 7.

          9.    A method of controlling the effects of *Y. pestis* on mammals comprising the steps of:

- a)    providing a vaccine comprised of the protein of claim 8; and
- 10           b)    treating a mammal in need thereof with an effective anti *Y. pestis* amount of the vaccine.